#1. Show the binary representation of $-425_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $274_{10}$ into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

#3. Fill in the Condition Code bits for the following addition instructions (8-bit two’s-complement numbers):

\[
\begin{array}{c}
10101010 \\
+ 10011001
\end{array}
\quad
\begin{array}{c}
11110110 \\
+ 00001010
\end{array}
\]

\[
\begin{array}{c}
\text{N} \text{ Z} \text{ V} \text{ C}
\end{array}
\quad
\begin{array}{c}
\text{N} \text{ Z} \text{ V} \text{ C}
\end{array}
\]

(over)
#4. Powers of 2

\[ 2^{56} \times 2 = \ldots \]

\[ 2^{13} = \ldots \] (in terms of K, M, G, etc.)

#5. In a Big-Endian architecture, show how the bytes are laid out in memory for the following statement (write the hexadecimal values of the bytes in the appropriate memory locations):

long shot = 0x0EB903471;

What is the hex value of the most significant byte? ________